ABSTRACT OF THE DISCLOSURE

In response to source code that represents instructions for dynamically allocating memory to objects, a compiler/interpreter produces instructions that implement a garbage collector. The garbage collector operates in garbage-collection cycles, which include parallel-execution operations such as locating reachable objects. Each thread maintains a respective task queue onto which it pushes identifiers of objects thus found and from which it pops those identifiers in order to begin the tasks of locating the further objects to which objects specified by the thus-popped identifiers refer. A thread's access to its respective task queue ordinarily occurs on a last-in, first-out basis, but the access mode switches to a first-in, first-out basis if the number of task-queue entries exceeds a predetermined threshold.